

June 30, 1994

FACT SHEET

PROPOSED AIR TOXICS RULE FOR THE PETROLEUM REFINERY INDUSTRY

TODAY'S ACTION...

- ◆ The Environmental Protection Agency is issuing a proposed rule to reduce air toxics emissions from petroleum refineries.
- ◆ Petroleum refineries process crude oil to produce automotive gasoline, lubricants, natural gas, and other petroleum-based products.

WHAT ARE THE HEALTH AND ENVIRONMENTAL BENEFITS?

- ◆ The proposed rule would reduce emissions of air toxics, including benzene, by approximately 59,400 tons per year; this represents a 68 percent reduction in emissions of air toxics from existing sources and a 41 percent reduction from new sources. Over 80 percent of the emission reductions from existing sources is expected to result from controlling equipment leaks. Air toxics are those pollutants known or suspected of causing cancer or other serious health effects (e.g. reproductive effects or birth defects.)
- ◆ In addition, the proposed rule would reduce emissions of volatile organic compounds (VOCs) by approximately 360,000 tons per year, representing a 72 percent reduction annually. VOCs contribute significantly to ground-level ozone, or smog.

WHY IS EPA REGULATING PETROLEUM REFINERIES?

- ◆ Under the Clean Air Act Amendments of 1990, EPA is required to regulate emissions of 189 listed toxic air pollutants. On July 16, 1992, EPA published a list of source categories that emit one or more of these air toxics. For listed categories of "major" sources (those that emit 10 tons annually or more of a listed pollutant or 25 tons or more of a combination of pollutants annually), the Act requires EPA

to develop standards that will require the application of maximum achievable control technology (MACT).

- ◆ In its July 16, 1992, published list of industry groups to be regulated, EPA identified petroleum refineries as a major source of air toxics.

WHO WOULD BE AFFECTED BY THE PROPOSED RULE?

- ◆ There are 192 petroleum refineries nationwide that are major sources of air toxics, and are therefore affected by the regulation.
- ◆ The proposed rule recommends control of air toxic emissions from storage tanks, equipment leaks, process vents, and wastewater collection and treatment systems.

WHAT DO THE PROPOSED STANDARDS REQUIRE?

All petroleum refineries classified as a major source would be required to meet the following control requirements for each of the emissions points noted below. Three types of process vents, catalytic cracking units (fluid and other), catalytic reforming units, and sulfur plant units are not covered by this proposed rule, but will be covered in a subsequent rulemaking due for promulgation by 1997.

STORAGE TANKS

- ◆ Storage tanks would be required to store petroleum liquids with a true vapor pressure (TVP) equal to or greater than 3.4 pounds per square inch absolute (psia) in tanks equipped with floating roofs. The seals on the floating roofs must meet the same requirements as specified in EPA's final air toxics rule for the Synthetic Organic Chemical Manufacturing Industry, also known as the "HON" rule. (40 CFR 63 Subpart F,G,H). Fitting controls, which also help control emissions from floating roofs, are not required for existing tanks. New tanks must be equipped with HON controls for both the seals and the fittings if the TVP of the liquid is equal to or greater than 0.5 pounds per square inch absolute (psia).

EQUIPMENT LEAKS

- ◆ The standard for equipment leaks is based on the rule for equipment leaks developed under EPA's HON rule. This segment of the proposed rule was developed through a regulatory negotiation which included officials from the petroleum industry, environmental groups, and State agencies.

Consistent with this rule, operators would be permitted to divide process units into groups, initiating leak detection and repair (LDAR) programs for each group in equal intervals over an 18-month period after promulgation; alternatively, operators could start LDAR programs for all the process units six months after promulgation. Also in keeping with the negotiated rule, the LDAR program consists of three phases. Each phase is progressively more stringent with respect to leak definitions and/or monitoring frequencies (how often monitoring is required). Phase I begins when the LDAR program is initiated for each group of equipment. Phases II and III begin 1 and 2.5 years later, respectively.

- ◆ Some adjustments to the provisions of the negotiated rule were made to reflect available information on what is technologically feasible for refineries. The proposed rule differs from the negotiated rule in the following ways: only one leak definition for pumps in phase III; leak definition for pumps is equal to or greater than 2000 parts per million volume (ppmv); leak definitions for valves in phases II and III; monitoring frequencies for valves; no requirement for monitoring connectors; sources have the option to monitor connectors with a less restrictive performance standard for valves.

PROCESS VENTS

- ◆ Controls are required for certain process vents, such as noncondensable gases vented from condensers and vacuum (steam) ejectors, that contain more than 20 ppmv organic air toxics. The air toxics content would have to be reduced by 98 percent or to 20 parts per million (ppm), whichever is less stringent.

WASTEWATER COLLECTION AND TREATMENT SYSTEMS

- ◆ EPA's proposed standard for wastewater is equivalent to the controls required in EPA's final air toxics rule for benzene waste (40 CFR 61 Subpart FF). Therefore, refineries that are in compliance with the Benzene Waste rule are considered in compliance with this proposed rule. The proposal covers (1) refineries with benzene loadings over 10 megagrams per year (Mg/yr) who must control streams containing 10 ppm or more of benzene and (2) refineries with benzene loadings under 10 Mg/yr who are only required to submit periodic reports.

EMISSIONS AVERAGING

- ◆ Emissions averaging is an innovative compliance provision that allows facilities limited flexibility to choose which emission points to control in order to achieve the required reductions.
- ◆ Under the proposed rule, emissions averaging is permitted among certain process vents, storage tanks and wastewater streams. The emissions averaging provisions and constraints are the same as those contained in EPA's HON rule. The provision includes existing sources but not new sources; excludes equipment leaks; includes emission points in the petroleum refineries source category only; requires a risk test to demonstrate that compliance through averaging would not result in a greater risk or hazard than compliance without averaging; limits the number of points that can be included in the average; and allows an annual compliance period.

REPORTING REQUIREMENTS

- ◆ Sources would be required to submit one-time reports for construction of new facilities, including actual and start-up dates. Such reports would also be required for physical or operational changes to existing facilities.
- ◆ Initial notification reports would be required to identify sources subject to the rule and the provisions that apply to these sources.
- ◆ Compliance status reports would be required to demonstrate that a source is in compliance with the regulation.
- ◆ Periodic reports would be required to provide monitoring data for the control devices and information on instances where inspections revealed problems.
- ◆ In addition, sources would be required to comply with the recordkeeping and reporting requirements for the equipment leaks provision (40 CFR 63 Subpart H) and for wastewater operations (40 CFR 61 Subpart FF).

HOW MUCH WOULD THE PROPOSED RULE COST?

The nationwide annual cost of the proposed rule is projected to equal approximately \$107 million. The one-time capital cost for the proposed rule is projected to equal approximately \$188 million.

FOR MORE INFORMATION...

Anyone with a computer and a modem can download the rule from the Clean Air Act board of EPA's electronic Technology Transfer Network bulletin board by calling (919) 541-5742. For further information about how to access the board, call (919) 541-5384. For further information about the rule, contact Jim Durham at (919) 541-5672.